6647

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

June 17, 2015

David McMullin
C.S. Mining LLC.
P.O. Box 608
Milford, Utah 84751

Subject: Review of Amended Notice of Intention to Commence Large Mining Operations, C.S. Mining LLC, Hidden Treasure Mine, M/001/0067, Beaver County, Utah

Dear Mr. McMullin:

The Division of Oil, Gas and Mining has completed a review of the amended Notice of Intention to Commence Large Mining Operations (Notice) which was received May 26, 2015. This amendment adds the Copper Ranch mini pit to the large mine Notice. The attached comments will need to be addressed before the Division approves this amendment.

The comments are listed under the applicable Minerals Rule heading; please format your response in a similar fashion. After the notice is determined technically complete, the Division will ask that you submit two clean copies of the complete and corrected plan. Upon final approval, both copies will be stamped approved and one will be returned for your records.

The Division will suspend further review of the Notice of Intention until your response to this letter is received. Please contact Peter Brinton at 801-538-5258 or me at 801-538-5261 if you have questions about the review or would like to arrange a meeting to discuss the issues. Thank you for your cooperation in completing this permitting action.

Sincerely,

Paul B. Baker
Minerals Program Manager

PBB: pnb: eb
Attachment: Review
cc: Ed Ginouves, BLM-Cedar City (UTU-82071); eginouve@blm.gov
P:\GROUPS\MINERALS\WP\M001-Beaver\M0010067-HiddenTreasure\final\REV-6647-06112015.docx

1594 West North Temple, Suite 1210, PO Box 145801, Salt Lake City, UT 84114-5801
telephone (801) 538-5340 • facsimile (801) 359-3940 • TTY (801) 538-7458 • *www.ogm.utah.gov*

UTAH DNR
OIL, GAS & MINING

REVIEW OF AMENDED NOTICEOF INTENTION TO COMMENCE LARGE MINING OPERATIONS

C.S. Mining LLC
Hidden Treasure Mine
M/001/0067
June 15, 2015

General Comments:

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
1	General	The Notice should be formatted to easily incorporate additional revisions and amendments. (No response needed.)		
2	General	The Division may have additional comments based on the responses to this review. Please attempt to provide a complete, technically adequate submittal. (No response needed.)	lah	

R647-4-105 - Maps, Drawings & Photographs

General Map Comments

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
3	Figure 1	There are 2 figures labeled "Figure 1." Consider using a naming system that will only have one of each when the plan is compiled into the Notice, such as Figure CRMP-1, CRMP-2 etc. Each drawing or figure should have a unique name to facilitate review, such as "Figure CRMP-3 Drill Hole locations." The cover letter notes a Figure 2.	lah	
4	Figure 1 & Figure 1	Both versions of Figure 1 note disturbance amount on private and BLM. Please include the breakdown in the bond calculations for the dollar amount on BLM and on private.	lah	

105.2 - Surface facilities map

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
5	Figure 1	At least some pit contour elevations are incorrect. Correctly label the upper elevations of the haul road, consistent with the geologic cross-section.	pnb	
6	Figure 1	Unless salvageable soils are going to be placed on the SITLA ore stockpile area, show the soil stockpile area.	pnb	
7	Figure 1	Identify the locations of berms around the pit.	pnb	
8	Figure 1	Show the natural, defined drainage paths.		
9	Figure 1	Show the approximate areas of previous disturbances, based on exploration maps. Distinguish any disturbances for which you are not responsible.	pnb	

105.3 - Drawings or Cross Sections (slopes, roads, pads, etc.)

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
10	Figure1, Second Figure1 and Drill Hole map	Please show the location of OSP-1 and OSP-2	lah	
11	No name map	Label figure with a distinct alpha numeric character. The label notes "Copper Ranch Mini-Pit- CS mining drill hole locations." The figure needs a scale.	lah	
12	No name map and 3 no name cross-sections	Labels note "Copper Ranch Mini-Pit Geology, South end, Middle and North end of mini pit looking north." Add scale to map, and add both vertical and horizontal scale to x-sections. To x-sections add "max slope angle" using Horizontal:Vertical, which is shown on the map as 1H:*V. As written on page 2 in the text, it is noted that the slope angle will be 1H:1V. If that is the intent, simply put a note on each cross-section that "Slope angle will not exceed 1H:1V."	lah	
13	Attachment B (Geology)	Add scales to plan view and x-sections. If the vertical and horizontal scales are the same on cross-sections, the B-B' section shows an overall slope angle steeper than 45 degrees, which is inconsistent with the rest of the Notice. A geotechnical evaluation will be needed if slopes are to be steeper than 45 degrees. Modify the figures or provide geotechnical information.	pnb lah	
14	Attachment B (Geology)	Provide a cross-section running roughly north-south through the pit bottom. Add a long-section perpendicular to the x-sections .	pnb lah	
15	Figure 2 (Rec. Treat. Map)	Show the secondary plans for pit reclamation if backfilling were not to occur, i.e. ripping and seeding haulroads, berms, etc.	pnb	

R647-4-106 - Operation Plan

106.2 - Type of operations - mining method, onsite processing, deleterious or acid-forming materials

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
16	Ore & Waste Characterization	The use of the word "demonstrate" to describe mined and milled materials as non-deleterious is strong, since material having some relatively high metals (based on a crustal abundance table) has not been evaluated for metals leaching.	pnb	

106.4 - Nature of materials mined or processed (including waste materials), and estimated annual tonnages

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
17	Tables 1-3	Merge the data from Table 1 with Tables 2 and 3. Revised Tables 2 and 3 should at very least show the rock type of each sample.	pnb	
18	Table 1	Does overburden mean cemented alluvium? Granodiorite rather than granite?	pnb	
19	Figure 2	Provide elemental analyses of ore and other samples from the actual pit area, or adequately explain why holes from the pit area were not used for analyses. Results can be provided concurrent to mining.	pnb	
20	Table 3	Are the holes vertical, i.e. are the depths representative? Otherwise, elevation ranges are more appropriate for reporting sample locations than depths.	pnb	

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
21	Table 3	Discuss sample weighting in composite samples. Unless each sample in the composite sample is properly weighted, the composite sample may not be representative of reality.	pnb	
22	Table 3	Considering that some metal levels are notably higher than average crustal abundance values (e.g. arsenic), additional elemental analyses and basic static leach testing (such as SPLP) of ore (or tailings) are needed. Considering the lined tailings impoundment, these samples can be provided concurrent to mining.	pnb	

106.5 - Existing soil types, location, amount

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
23	Omission	Indicate whether existing soils (though partly disturbed) are similar in any way to those already evaluated in the current version of the approved Notice.	pnb	
24	Omission	Aerial photos show that significant undisturbed areas exist, besides those disturbed by exploration. Using basic assumptions, estimate the recoverable soil resources from undisturbed areas, including road realignment.	pnb	

106.6 - Plan for protecting & re-depositing soils

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
25	Topsoil Salvaging	Identify the specific pile. Is it the SITLA ore stockpile?	pnb	

106.7 - Existing vegetation - species and amount

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
26	Topsoil Salvaging	Identify dominant species and relative amounts. Indicate whether pre-mining vegetation (quantity and type) are similar to other permitted areas, i.e. whether existing vegetation data applies to this area.	pnb	

R647-4-109 - Impact Assessment

109.1 - Projected impacts to surface & groundwater systems

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
27	Omission	Identify projected impacts to surface and groundwater systems, and any planned mitigation.	pnb	

109.2 - Potential impacts to threatened & endangered wildlife/habitat

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
28	Omission	Identify potential impacts to threatened and endangered species or habitat, and any planned mitigation.	pnb	

109.3 - Projected impacts on existing soils resources

Comment #9	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
29	Omission	Identify projected impacts to existing soil resources, and any planned mitigation.	pnb	

109.4 - Projected impacts on slope stability, erosion control, air quality, public health and safety

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
30	Omission	Identify projected impacts on slope stability, erosion control, air quality, and public health and safety, and any planned mitigation.	pnb	

R647-4-110 - Reclamation Plan

110.1 - Current & post mining land uses

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
31	Omission	Identify current and post-mining land uses.	pnb	
32	Topsoil Salvaging	Not all of the area has been previously disturbed by exploration. Remove the absolute nature of the statement.	pnb	

110.2 - Reclamation of roads, highwalls, slopes, impoundments, drainages, pits, piles, shafts, adits, etc

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
33	Reclamation Activities	Specify the source of backfill.	pnb	
34	Reclamation Activities	If the mining activities that will generate the waste for backfilling are not yet known or permitted, indicate what reclamation efforts would be needed to meet the reclamation requirements of R647-4-111 for the remaining open pit. The reclamation bond should be calculated as if the pit was not going to be backfilled, since the Division wouldn't commence or continue mining activities to backfill the pit.	pnb	

110.3 - Facilities to be left for post mining use (buildings, utilities, roads, pads, ponds, pits, equipment, etc.)

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
35	Reclamation Activities	Indicate approximately how long the pit is anticipated to remain open before being backfilled.	pnb	

110.5 - Revegetation planting program, topsoil, replacement, seed bed prep, seed mixtures, rates, timing, erosion control

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
36	Reclamation Activities	Indicate the minimum amount of soil to be placed, regardless of the existing soil resource.	pnb	
37	Reclamation Activities	Identify the seed mix. In this case, you can refer to the seed mix in the approved Notice.	pnb	

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
38	Reclamation Activities	Identify the planned timing of seeding. Seedbed preparation should be done immediately prior to seeding.	pnb	
39	Reclamation Activities	Recontouring is usually done prior to ripping. Correct as needed.	pnb	

110.6 – Statement that the operator will conduct reclamation as required by these rules

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
40	Omission	Add a statement that the operator will conduct reclamation as required by these rules.	pnb	

R647-4-113 – Surety

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
41	General	The reclamation cost estimate should be calculated as if the pit was not going to be backfilled, since the Division would not commence or continue mining activities to backfill the pit. As such, it appears that the material pushing and recontouring line item isn't needed, and less acreage will need to be hauled, ripped (unless significant old haul road acreage isn't already included), and seeded.	pnb	
42	Total	The average cost per acre disturbed is incorrect, since it assumes the total large mine acreage.	pnb	
43	Earthwork	Provide the production sheets used to calculate the production rates for each piece of equipment.	pnb	